

WHAT IS CLAIMED:

- 1                   1. A polystyrene composition or styrene  
2                   copolymer composition comprising a white oil as a  
3                   plasticizer, wherein the white oil comprises a  
4                   Fischer-Tropsch derived oil.
- 1                   2. The composition of claim 1, in which the  
2                   Fischer-Tropsch derived white oil has a kinematic  
3                   viscosity at 100 °C of more than 2 mm<sup>2</sup>/sec.
- 1                   3. The composition of claim 2, in which the  
2                   Fischer-Tropsch derived white oil has a kinematic  
3                   viscosity at 100 °C of more than 7 mm<sup>2</sup>/sec.
- 1                   4. The composition of claim 2, in which the  
2                   Fischer-Tropsch derived white oil has a content of  
3                   mineral hydrocarbons with carbon numbers less than 25  
4                   of not more than 5% wt and an average molecular  
5                   weight not less than 480 g/mol.
- 1                   5. The composition of claim 1 in which the  
2                   composition comprises between 0.1 wt% and 10 wt% of  
3                   the Fischer-Tropsch derived oil.
- 1                   6. The composition of claim 5, in which the  
2                   composition comprises between 2 wt% and 5 wt% of the  
3                   Fischer-Tropsch derived oil.
- 1                   7. The composition of claim 1, in which the  
2                   Fischer-Tropsch derived oil has a Saybolt color  
3                   greater than +25.
- 1                   8. The composition of claim 7, in which the  
2                   pour point of the Fischer-Tropsch derived oil is  
3                   below -10 °C.
- 1                   9. The composition of claim 8, in which the  
2                   content of polar compounds in the Fischer-Tropsch  
3                   derived oil is less than 1 wt% and the content of  
4                   non-cyclic isoparaffins is between 75 wt% and 98 wt%.

1                   10. The composition of claim 9, in which the  
2                   composition comprises between 0.1 wt% and 10 wt% of  
3                   the Fischer-Tropsch derived oil.

1                   11. The composition of claim 10, in which the  
2                   composition comprises between 0.1 wt% and 10 wt% of  
3                   the Fischer-Tropsch derived oil.

1                   12. The composition of claim 11, in which the  
2                   Fischer-Tropsch derived oil has a kinematic viscosity  
3                   at 100 °C of more than 2 mm<sup>2</sup>/sec.

1                   13. The composition of claim 12, in which the  
2                   Fischer-Tropsch derived white oil has a content of  
3                   mineral hydrocarbons with carbon numbers less than 25  
4                   of not more than 5 wt% and an average molecular  
5                   weight of not less than 480 g/mol.

1                   14. The composition of claim 13, in which the  
2                   Fischer-Tropsch derived oil has a 5 wt% recovery  
3                   boiling point above 391 °C.

1                   15. A process for preparing a white oil  
2                   comprising:

3                   (a) hydrocracking/hydroisomerizing a Fischer-  
4                   Tropsch derived feed, wherein compounds having at  
5                   least 60 or more carbon atoms and compounds having at  
6                   least 30 carbon atoms in the Fischer-Tropsch derived  
7                   feed have a weight ratio of at least 0.2 wt% and  
8                   wherein at least 30 wt% of compounds in the Fischer-  
9                   Tropsch derived feed have at least 30 carbon atoms;

10                  (b) separating the product of step (a) into one  
11                  or more lower boil distillate fraction(s) and a  
12                  higher boiling white oil precursor fraction;

13                  (c) performing a pour point reducing step to the  
14                  white oil precursor fraction obtained in step (b);  
15                  and,

16                  (d) isolating the white oil by distilling the  
17                  product of step (c).

1                   16. The process of claim 15, in which the  
2                   Fischer-Tropsch derived feed comprises a C<sub>20+</sub> fraction  
3                   having an ASF-alpha value of at least 0.925.

1                   17. The process of claim 15, in which the  
2                   Fischer-Tropsch derived feed has an initial boiling  
3                   point below 200 °C.

1                   18. The process of claim 15, in which the  
2                   hyrocracking/hydroisomerizing in step (a) is  
3                   performed in the presence of hydrogen and a catalyst.

1                   19. The process of claim 15, in which the  
2                   white oil precursor of step (b) has a T<sub>10 wt%</sub> boiling  
3                   point between 300 °C and 450 °C.

1                   20. The process of claim 15, in which the  
2                   pour point reducing step (c) comprises catalytic  
3                   dewaxing.

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